

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) Titanium dioxide fine particles, wherein the titanium dioxide is doped with at least two elements selected from the group consisting of carbon, hydrogen, nitrogen and sulfur wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more and wherein, if the titanium dioxide is doped with nitrogen, the nitrogen comprises 700 ppm by weight or more.
2. (Previously Presented) Titanium dioxide fine particles, wherein the titanium dioxide is doped with 700 ppm by weight or more of nitrogen and with at least one element selected from the group consisting of carbon, hydrogen and sulfur and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.
3. (Previously Presented) Titanium dioxide fine particles, wherein the titanium dioxide is doped with carbon, hydrogen and 700 ppm by weight or more of nitrogen and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.
4. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein the concentration of doped nitrogen is 10,000 ppm by weight or less.
5. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein the titanium dioxide fine particles comprise doped nitrogen bonded to titanium by Ti-N-O bonds or Ti-N-Ti bonds.
6. (Original) Titanium dioxide fine particles according to Claim 5, wherein the Ti-N-Ti bonds are the majority of the nitrogen-titanium bonds.
7. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein doped nitrogen desorbs as N₂ on heating the titanium dioxide fine particles and shows an N₂ desorption peak at a temperature of 700°C or more.

8. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein doped hydrogen desorbs as H₂ on heating the titanium dioxide fine particles and shows an H₂ desorption peak at a temperature of 700°C or more.

9. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein doped carbon desorbs as CO₂ on heating the titanium dioxide fine particles and shows a CO₂ desorption peak at a temperature of 700°C or more.

10. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein a component having a m/e ratio between the mass number (m) and ionic charge number (e) of 68 desorbs on heating the fine particles and shows a desorption peak at a temperature of the component of 700°C or more.

11. (Previously Presented) Titanium dioxide fine particles, wherein the titanium dioxide is doped with two or more kinds of anions including at least carbon and nitrogen wherein the titanium dioxide is doped with at least 700 ppm by weight or more of nitrogen relative to titanium oxide and wherein of the titanium dioxide fine particles is 80% by weight or more and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.

12. (Cancelled)

13. (Previously Presented) Titanium dioxide fine particles according to Claim 11, wherein the concentration of doped carbon is 50 ppm by weight or more relative to titanium dioxide.

14. (Previously Presented) Titanium dioxide fine particles, wherein the titanium dioxide is doped with 700 ppm by weight or more to 10,000 ppm by weight or less of nitrogen anions and further doped with carbon anions in a concentration of 1/30 or more to 1/3 or less of the concentration of nitrogen are doped in titanium dioxide and wherein a titanium dioxide content of the titanium dioxide fine particles is 80% by weight or more.

15. (Previously Presented) The titanium dioxide fine particles according to Claim 2, wherein the titanium dioxide particles comprise particles having a particle diameter of 1 μm or less.

16. (Previously Presented) The titanium dioxide fine particles according to Claim 2, wherein titanium dioxide fine particles comprise particles having an ellipsoidal shape with a major axis length of 10 nm or more and 60 nm or less.

17. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein an IR spectrum measured by Fourier transform IR spectroscopy exhibits absorption peaks at $340 \pm 10 \text{ cm}^{-1}$ and $580 \pm 50 \text{ cm}^{-1}$.

18. (Previously Presented) Titanium dioxide fine particles according to Claim 2, wherein the titanium dioxide fine particles exhibit an isopropanol oxidation activity under visible light irradiation with a wavelength of 400 nm or more and 600 nm or less.

19. (Previously Presented) Titanium dioxide fine particles according to Claim 2 produced by a process comprising:

placing 0.2 g of the titanium dioxide fine particles as a sample formed into a uniform 10 cm square layer in a gas bag with a volume of 1 liter;

filling an isopropanol gas in the bag and adjusting an initial concentration to 1,500 ppm \pm 150 ppm; and

irradiating a light from a UV-shielded fluorescent lamp to the sample at an intensity of 0.5 W/cm² at an wavelength of 420 nm for 1 hour.

20. (Previously Presented) A method of using titanium dioxide fine particles according to Claim 2, comprising:

catalyzing an oxidation reaction with the titanium dioxide fine particles by exposing the particles to visible light.

21. (Cancelled)

22. (Currently Amended) A method for producing titanium dioxide fine particles according to Claim 1, comprising:

heat-treating titanium dioxide fine particles at a temperature of from 500°C or more to 620°C or less in an atmosphere of a nitrogen, carbon and hydrogen containing gas.

23. (Currently Amended) A method for producing titanium dioxide fine particles according to Claim 1, comprising:

heat-treating titanium dioxide fine particles at a temperature of from 500°C or more to 620°C or less in an atmosphere of an NH₃ gas and carbon containing gas.

24. (Currently Amended) The method for producing titanium dioxide fine particles according to Claim [[22]] 23, wherein the step of heat treating titanium dioxide particles comprises heat treating titanium dioxide fine particles comprising an average particle diameter of 10 nm or less and a specific surface area of 300 m²/g or more.

25-27. (Cancelled)